

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application No. 10/736,581

Q78469

REMARKS

General Remarks

Claims 1-14 are all the claims pending in the application. Claims 12-14 stand withdrawn. Applicants note that the Examiner has failed to acknowledge Applicants' claim for foreign priority or the receipt of the certified copy of the priority document, filed on May 24, 2004. The Examiner is respectfully requested to do so in the next Office communication.

Claim Objections and §112 Rejections

Claims 1-11 stand objected to due to informalities. Claims 1-11 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. With this Amendment, Applicants amend Claim 1. Applicants therefore submit that Claims 1-11 are currently in proper form and respectfully request that the objections thereto and the rejections thereof under 35 U.S.C. § 112 be reconsidered and withdrawn.

Claims 1, 4, 8, 9, and 11 over Sugihara

Claims 1, 4, 8, 9, and 11 stand rejected as allegedly anticipated by Sugihara, U.S. Patent Publication No. 2002/0192929 ("Sugihara").

Regarding Claims 1 and 9, Applicants submit that Sugihara fails to disclose or suggest at least forming an insulating layer on inside walls of a micropore, as claimed. The Examiner refers to Sugihara Figures 5A-5G, and the descriptions thereof, as disclosing this limitation. (Office Action, p. 3). However, there is no disclosure or suggestion of this limitation. As described in Sugihara paragraphs [0172] through [0176], there is no formation of an insulating layer on the sidewalls of micropores. As described in Sugihara paragraphs [0174] through [0176], a

protective film, such as the resist illustrated in Figure 5D, is formed on the surface of the Au layer to protect the Au layer from the Ni plating which forms the Ni bumps illustrated in Figures 5D-5G. However, even assuming, *arguendo*, that the bump holes of Sugihara disclose the micropores of Claims 1 and 9, there is no disclosure or suggestion in Sugihara of forming any insulating layer on the sidewalls of the micropores.

Further, regarding Claim 1, Applicants submit that Sugihara fails to disclose or suggest at least removing the protective member after inserting an electroconductive substance into a micropore. Even assuming, *arguendo*, that the nickel and gold layers described in Sugihara form a protective member, as recited in Claim 1 (Office Action, p. 3), these layers are not removed according to Sugihara.

In view of at least the above, Applicants submit that Sugihara fails to anticipate the present invention as recited in Claims 1 and 9 and that Claims 4, 8, and 11 are patentable at least by virtue of their dependence on Claim 1. Therefore, Applicants respectfully request that the Examiner's rejection of Claims 1, 4, 8, 9, and 11 over Sugihara be reconsidered and withdrawn.

Claims 1-11 over Takao

Claims 1 and 8-11 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Takao, U.S. Patent Publication No. 2004/0137701 ("Takao"). Claims 2-7 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Takao.

Regarding Claim 1, Applicants submit that, like Sugihara, Takao fails to disclose or suggest at least removing the protective member after inserting an electroconductive substance into a micropore. Even assuming, *arguendo*, that the resin layer 212 or 312 and the glass

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substrate 213 or 313 of Takao form a protective layer, as set forth by the Examiner (Office Action, p. 3), there is no teaching or suggestion of the removal of these layers.

Applicants submit that Claims 2-11 are patentable at least by virtue of their dependence on Claim 1.

Further, Regarding Claims 2 and 3, the Examiner asserts that “It would have been obvious to one of ordinary skill in the art to have had the electroconductive substance be deposited by molten metal insertion method, or printing method,” and “to have had the pressure be used to insert the electroconductive film and the associated parameters, in the method of Takao, with the motivation that if an alternate conductor were chosen to fill the micropore, deposition by molten metal insertion, printing and/or pressure methods would be possible and/or desirable.” (Office Action, p. 4-5). However, Applicants submit that the Examiner has failed to show that one of skill in the art would have been motivated by the disclosure of the cited art to use an alternate conductor or that the use of an alternative conductor would make the claimed insertion methods obvious.

Therefore, in view of at least the above, Applicants submit that Claims 1-11 are patentable over Takao and respectfully request that the Examiner’s rejections of Claims 1-11 over Takao be reconsidered and withdrawn.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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